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(54) Patent Title: Information Processing Apparatus

(57) [Summary]

[Purpose] To enable the transfer of information from input peripheral apparatuses to a different storage device for each user on a network.

[Design] In storage section 1.5 of the present apparatus, information is available to identify users who are allowed to use the present apparatus and where data for each user shall be sent (a storage device of a client on the network and name of a directory). When a user connects a device such as a PCMCIA card with information identifying himself/herself to a PCMCIA card control section 1.3 of the present apparatus, the information is read and a search is performed over the data in storage section 1.5. Next, an image scanner which is connected to an input peripheral device 1.4 is operated to scan the image of an original. A file containing the image data is transferred to the storage device on the network which was found as specific to the user as a result of the search.

[What is claimed:]

[Claim 1] Information processing apparatus to which peripheral devices are connected so that they can function as resources shared over a network, wherein the information processing apparatus possesses

connection means for connecting said peripheral devices,

a storage means for storing user information which comprises of identification information to identify users who are allowed to use the apparatus and storage information to specify a storage device on the network for each user,

an engagement means for engaging a storage media in which information to identify a user is stored,

a search means for performing a search through said storage means using the information stored on the engaged storage media as a basis, and

a transfer means for transferring the information entered through said peripheral device to a storage device on the network which the storage information among the user information obtained through said search means specifies.

[Claim 2] Information processing apparatus described in Claim 1, wherein said peripheral device is an apparatus to read in the image of an original.

[Claim 3] Information processing apparatus described in Claim 1, wherein the storage media which said engagement means engages is a memory card.

[Claim 4] Information processing apparatus described in Claim 1, wherein said transfer means is disabled if said search means can not find corresponding user information.

[Claim 5] Information processing apparatus described in Claim 1, wherein said transfer means transfers the information entered through said peripheral devices in a form of a file.

[Claim 6] Information processing apparatus which is connected to a network,
wherein the information processing apparatus possesses

a storage means for storing user information which comprises of identification information to identify users who are allowed to use the apparatus and account address information of a mail server on the network for each user,

an entry means for entering information to identify a user,

connection means for at least connecting a rewritable storage media,

a search means for performing a search through said storage means using the information entered through said entry means as a basis, and

a mail storage means for accessing a mail server using the account address within the user information which is obtained through said search means, receiving mail for the corresponding user, and storing the mail in the storage media which is connected to said connection means.

[Claim 7] Information processing apparatus described in Claim 6, wherein a memory card which stores information to identify a user is attached to said entry means and the entry means retrieves said information to identify a user from said attached memory card.

[Claim 8] Information processing apparatus described in Claim 6, wherein the storage media which is connected through said connection means is a memory card.

[Claim 9] Information processing apparatus described in Claim 1, wherein said mail storage means is disabled if said search means can not find corresponding user information.

[Claim 10] Information processing apparatus described in Claim 6, wherein said storage media is equipped with a display means for displaying the content of stored mail.

[Claim 11] Information processing apparatus to which a facsimile device is connected so that it can function as a resource shared over a network, wherein the information processing apparatus possesses

a storage means for storing identification information to identify users who are allowed to use the apparatus,

a storage-hold means for storing and holding received images in association with a corresponding user based on the identification information within received confidential information, when said facsimile device receives confidential information,

an entry means for entering information to identify a user,

a search means for performing a search through said storage means using entered information, and

an output means for outputting images which are stored and held in a certain visual image output device, when there are received images for the user which said search means finds as a result of a search.

[Claim 12] Information processing apparatus described in Claim 11, wherein a memory card which stores information to identify a user is attached to said entry means and the entry means retrieves said information to identify a user from said attached memory card.

[Claim 13] Information processing apparatus described in Claim 11, wherein said output means is disabled if said search means can not find corresponding user information.

[Claim 14] Information processing apparatus described in Claim 11, wherein said output means outputs to said facsimile device so that said facsimile device produces print outputs.

[Claim 15] Information processing apparatus described in Claim 11, wherein said output means outputs to a printer which is connected to the network.

[Claim 16] Information processing apparatus which is connected to a network and which is connected to a device which at least has printing functions, wherein the information processing apparatus possesses

a storage means for storing identification information to identify users who are allowed to use the apparatus,
a receiving means for receiving printing information from a client on the network,
a holding means for holding the received printing information in association with a corresponding user,
an entry means for entering information to identify a user,
a search means for performing a search through said storage means using entered information to identify a user, and
an output means for outputting printing information to said device having printing functions, when said printing information from the user corresponding to the searched result is held in said holding means.

[Claim 17] Information processing apparatus described in Claim 16, wherein a memory card which stores information to identify a user is attached to said entry means and the entry means retrieves said information to identify a user from said attached memory card.

[Claim 18] Information processing apparatus described in Claim 16, wherein said output means is disabled if said search means can not find a corresponding user.

[Detailed Explanation of Inventions]

[0001]

[Technical Field of Inventions] The present inventions pertain to an information processing apparatus, and in more detail, to an information processing apparatus which is connected to a network.

[0002]

[Prior Art Technology] A printer is one of peripheral devices which can be used while connected to a network. A plurality of clients (information processing apparatuses

which are connected to the network) can output printing data to such a printer and produce printouts. Thus, the clients can share the device.

[0003] However, currently there are no input peripheral devices such as image scanners which are connected to a network.

[0004] The reason is that there are no clear definitions on to which clients on a network input information (scanned images) shall be transmitted when input peripheral devices such as image scanners are connected to the network.

[0005]

[Issues which are to be Resolved by Inventions] Therefore, input peripheral devices such as image scanners are normally not connected to a network itself, but to a client machine which is connected to a network. In an example of scanning the image of an original, a client machine having an image scanner is operated and the scanner scans an image. The scanned image is stored in a form of a file. Then, the file is transferred to the client machine of the scanner. Such a process is very cumbersome.

[0006] Moreover, when an electronic mail server which is used over a network is considered, a general procedure is as follows. A user of a client logs in to the mail server using his or her own mail account. Then, if there is mail, he or she downloads it. However, if somebody else is using the machine that functions as his or her client, he or she can not read his or her mail.

[0007] Furthermore, it is possible to print using a remote printer when a print command is executed on a client. However, when he or she does not wish the print out to be seen by another person, he or she needs to rush to the printing device as soon as he or she executes a print command.

[0008]

[Means to Resolve the Issues] Thus, the first invention intends to provide an information processing apparatus which enables information from input peripheral devices to be transferred to a separate storage target for each user.

[0009] In order to resolve such issues, the information processing apparatus of the present invention possesses the following design. Peripheral devices are connected to the information processing apparatus so that they can function as resources shared over a network, wherein the information processing apparatus possesses connection means for connecting said peripheral devices, a storage means for storing user information which comprises of identification information to identify users who are allowed to use the apparatus and storage information to specify a storage device on the network for each user, an engagement means for engaging a storage media in which information to identify a user is stored, a search means for performing a search through said storage means using the information stored on the engaged storage media as a basis, and a transfer means for transferring the information entered through said peripheral device to a storage device on the network which the storage information, among the user information obtained through said search means specifies.

[0010] Further, the second invention intends to provide an information processing apparatus which enables a simple procedure to download electronic mail.

[0011] For this purpose, the second invention possesses the following design. The information processing apparatus is connected to a network, wherein the information processing apparatus possesses a storage means for storing user information which comprises of identification information to identify users who are allowed to use the apparatus and account address information of a mail server on the network for each user, an entry means for entering information to identify a user, connection means for at least connecting a rewritable storage media, a search means for performing a search through said storage means using the information entered through said entry means as a basis, and a mail storage means for accessing a mail server using the account address within the user information which is obtained through said search means, receiving mail for the

corresponding user, and storing the mail in the storage media which is connected to said connection means.

[0012] Further, the third invention intends to provide an information processing apparatus which enables printing information to be printed when a user wishes, instead of printing as soon as a printing process receives the printing information.

[0013] For this purpose, the third invention possesses the following design. A facsimile device is connected to the information processing apparatus so that it can function as a resource shared over a network, wherein the information processing apparatus possesses a storage means for storing identification information to identify users who are allowed to use the apparatus, a storage-hold means for storing and holding received images in association with a corresponding user based on the identification information within received confidential information, when said facsimile device receives confidential information, an entry means for entering information to identify a user, a search means for performing a search through said storage means using entered information, and an output means for outputting images which are stored and held in a certain visual image output device, when there are received images for the user which said search means finds as a result of a search.

[0014] Or, the information processing apparatus is connected to a network and also to a device which at least has printing functions, wherein the information processing apparatus possesses a storage means for storing identification information to identify users who are allowed to use the apparatus, a receiving means for receiving printing information from a client on the network, a holding means for holding the received printing information in association with a corresponding user, an entry means for entering information to identify a user, a search means for performing a search through said storage means using entered information to identify a user, and an output means for outputting printing information to said device having printing functions, when said printing information from the user corresponding to the searched result is held in said holding means.

[0015]

[Exemplification of Inventions] Below, examples of the present inventions are explained in detail, according to the attached figures.

[0016] Figure 1 shows a block diagram of the apparatus of an example and Figure 5 shows its appearance and an operation panel.

[0017] In the figure, 1.1 is a network connection section including a network adapter (such as one for an Ethernet LAN with a bus structure which is jointly developed by Xerox, DEC and Intel), 1.2 is a control section comprising CPU, ROM, RAM and so forth, and 1.3 is a PCMCIA (Personal Computer Memory Card International Association) card control section comprising of a PCMCIA card slot and a PCMCIA controller.

[0018] In the figure, 1.4 is a peripheral device connection section comprising of an interface which can engage with an input peripheral device. In the present example, this is a SCSI (Small Computer System interface) interface. An image scanner is connected to the device of the present example. In the figure, 1.5 is a storage section which stores files. This can be made of a hard disk as an example. In the present example, it is made of a RAM disk. In the figure, 1.6 is an operation panel including a display device and an input device. In this example, the display device is an LCD and the input device has buttons.

[0019] Overall operation of the example having the above design is explained as in the following. A network user has a PCMCIA card which stores unique information (an identification number) which identifies him or her. This PCMCIA card is engaged in the PCMCIA card control section 1.3 of the present apparatus. When the apparatus detects the engagement of the PCMCIA card, it compares the data in the card with the information which is stored in storage section 1.5 in advance. Thus, it identifies the client machine of this user and at the same time, it displays information such as the user's name on the operation panel 1.6 for the purpose of confirmation.

[0020] Afterwards, the users operate the image scanner which is connected to input peripheral device connection section 1.4 and scans an image of the original. Then, the scanned image data is transferred to a particular directory of a particular machine on the network which is specified in the user's PCMCIA card in a form of a file.

[0021] The operation is as above. Using Figure 2, the data contents in storage section 1.5 and their usage are explained with respect to the execution of the above operation.

[0022] As illustrated in Figure 2, storage section 1.5 contains a user name 2.1 (a user name is easier to manage than a user number), an identification number 2.2, a network address (the network address of the user) 2.3, and control information 2.4 including storage target information such as names of drive and directory of the storage target and option setting information of an application which controls the image scanner (number of colors, scanning resolution and so forth). A set of these pieces of information 2.1 ~ 2.4 (hereafter referred to as user information) is stored in advance for each of the registered users.

[0023] When a user engages his or her PCMCIA card into PCMCIA card control section 1.3, the CPU retrieves the identification number which is stored in the PCMCIA card. A search is performed for a match among the identification numbers within the user information stored in storage section 1.5. When a search finds a match, the user name within the user information is retrieved and displayed on the display section which is provided on the operation panel 1.6 for the purpose of confirmation. Next, when a scanning command is entered through the operation panel, the command is transmitted to the image scanner, which then scans. Thereby, image information is transmitted through input peripheral device connection section 1.4. After temporarily holding the information in a RAM or storage section 1.5, the information is transferred in a form of a file to a storage target (a specified directory on a hard disk of the user's client machine on the network) which is specified by the corresponding storage target information.

[0024] Next, the operation process steps in which the shared scanner scans a document in the example apparatus are explained using Figure 3. Here, the program based on this flow chart is stored in the ROM of the control section.

[0025] First, in step S3.1, the present apparatus monitors whether a certain button on operation panel 1.6 is pressed. If it is pressed, the process proceeds to step S3.2. Otherwise, it returns to step S3.1 and waits until the button is pressed.

[0026] When the process proceeds to step S3.2, the apparatus detects whether a card is inserted into PCMCIA card control section 1.3. If there is a card, the process proceeds to step S3.4. Otherwise, it proceeds to step S3.3.

[0027] When the process proceeds to step S3.3, scanning is performed using default settings and image data which is obtained by the scanning is sent in a form of a file to a default directory of a default machine (e.g., a file server). This is the case in which the user pressed a scanning switch on the image scanner and an input request button on the present apparatus without inserting his or her card.

[0028] Contrarily, in the case where the process detects the insertion of a PCMCIA card and proceeds to step S3.4, the apparatus reads the user's identification number in the engaged PCMCIA card through PCMCIA card control section 1.3.

[0029] Next, in step S3.5, the apparatus compares the user identification number which is read in step S3.4 and identification numbers of the entire user information which is stored in storage section 1.5 and searches for matching user information.

[0030] Search results are examined in step S3.6. If matching user information is found, then the process proceeds to step S3.7. If matching user information is not found, the process proceeds to step S3.9.

[0031] When the process proceeds to step S3.7, the image scanner is driven according to the setting information stored in control information 2.4 in the matched user information so that an image of an original is scanned. The scanned image enters through input peripheral device connection section 1.4 and the image information is transferred in a form of a file according to the name of the storage directory and the storage target address which are stored in control information 2.4.

[0032] When the transfer completes in this manner, the process proceeds to step S3.8. A message such as "Please remove your card" is displayed in the display section of operation panel 1.6. The process waits in step S3.10 until the card is removed.

[0033] On the other hand, when no match for the identification information in the engaged PCMCIA card is found, the result of the examination in step S3.7 becomes "No" and the process proceeds to step S3.9.

[0034] In this case, there is no matching password (identification number) and the user is not registered on the present apparatus. Hence, an error message (a message indicating that the user can not utilize the machine) is displayed on the display section of the operation panel. Then, the process proceeds to step S3.10. A message asking the user to remove the engaged PCMCIA card and the apparatus then waits for the card to be removed.

[0035] Next, the process steps for setting scanner options from a client on a network are explained, based on the flow chart in Figure 4.

[0036] The present process sets control information 2.4 in the corresponding user information in storage section 1.5 of the present apparatus from a client machine over a network.

[0037] First, in step S4.1, a user runs an application for setting scanner options on a client (such as a personal computer) on a network. This application is installed on all clients.

[0038] Next, the process proceeds to step S4.2. This application sends the present apparatus the network address of the client and a certain command. When the address and command are received, the apparatus finds the user information corresponding to this user and transmits the user (client) the control information therein.

[0039] The application on the client displays the current settings which it receives from the present apparatus in such a way that the settings can be easily confirmed. At the same time, the application enables the user to alter the option settings (step S4.3). For example, it displays the storage directory, number of colors and scanning resolution and enables these to be altered.

[0040] The user changes the various parameters which are displayed on his or her machine and performs certain operations. Then, the application sends the altered information to the present apparatus. Upon receiving the information, the CPU of the present apparatus rewrites the control information in the corresponding user information within storage section 1.5 and saves the changes.

[0041] As explained above, according to the present first example, a simple operation enables information (image information) which is entered through an input peripheral device such as an image scanner device to be stored in a form of a file in a desired directory in a user's appropriate machine on a network.

[0042] In the present example, a scanning command of an image scanner was entered through the present apparatus. However, scanning can be initiated by operating a scanning execution button on the scanner device.

[0043] <The Second Example> In the above example, the explanation was given for a case where an image scanner is used as an input peripheral device. However, an input peripheral device may be a facsimile device as an example. Thus, the above example does not restrict the inventions of the present patent filing. In such a case, the scanner section of the facsimile device may be utilized, rather than sending a facsimile directly from the client.

[0044] Moreover, in a case where a facsimile number is not entered, in other words, in a case where a facsimile device is utilized as an image scanner, the above OA interface can be installed on the facsimile device so that a scanned image is sent to the present apparatus through the OA interface. Then, it can work in the same way as in the above example.

[0045] Moreover, although the present example explains a case in which a PCMCIA card in conjunction with PCMCIA control section 1.3 is employed, it is not necessary to utilize a PCMCIA card. The reason is because the only thing that needs to be examined is whether he or she is a rightful user. For example, various keys may be placed on the present apparatus so that an identification number can be entered using the keys. Moreover, instead of placing physical keys, a touch panel (provided on the display screen) may be used as an example so that various buttons are displayed according to each situation. A user can use the displayed buttons to define settings.

[0046] <The Third Example> In a general case where a network is built and electronic mail is exchanged over the network, mail is transferred to a desired addressee using a unique address which is assigned to each information processing apparatus (such as a personal computer) on the network. All mail is stored on a storage device (such as a hard disk) of a dedicated machine so that each client can view only mail addressed to it.

[0047] In order to view mail, an application for that purpose is run. A user logs in to a server through the application and views the mail addressed to him or her. However,

a user who does not frequently utilize mail or who rarely uses such an apparatus would have to wait until he or she turns on the power to the apparatus and its system and application boot up.

[0048] Moreover, in a case where mail can be viewed only on a dedicated workstation, only a user on the workstation can utilize mail. Others can not utilize mail, thereby causing an inconvenience. The present third example intends to solve all of these problems.

[0049] The overall explanation of the present third example is as follows. A PCMCIA card having a rewritable memory is utilized. By engaging a card in the present apparatus, the contents of mail to the user of the card are transferred to the PCMCIA card. The user pulls out the PCMCIA card after the transfer and then engages it to an apparatus (this does not have to be connected to a network) that he or she uses, where the user can examine the mail contents.

[0050] Here, the apparatus design and appearance of the present third example are the same as those of the first example which is previously explained. Hence, their explanation is omitted.

[0051] The data contents which are stored in storage section 1.5 of the present third example and their usage are explained according to Figure 6.

[0052] Storage section 1.5 of the present third example stores in advance user information comprising a set of a user name 6.1, an identification number 6.2 and an electronic mail account address 6.3 for each user, as illustrated in the figure.

[0053] Below, the operation is explained according to the flow charts in the same figure as well as Figure 7. In the present third example, a program which corresponds to the illustrated flow charts is stored in the ROM of control section 1.3.

[0054] First, in step S7.1, PCMCIA card control section 1.3 of the present apparatus works and detects whether a PCMCIA card is engaged in the present apparatus. The process waits until a card is detected.

[0055] When a PCMCIA card is detected, the process proceeds to step S7.2. Using PCMCIA card control section 1.3, the user number (identification number) in the card is read.

[0056] Next, the process proceeds to step S7.3. A search seeks for a match among the user information (identification numbers therein) in storage section 1.5 for the identification number read from the PCMCIA card.

[0057] Step S7.4 examines the search results. In other words, when the presence of a matching identification number is found, the process proceeds to step S7.5, and when the presence of a matching identification number is not found, the process proceeds to step S7.7.

[0058] When the process proceeds to step S7.5, the mail account address in the searched user information is used to log in to a mail server. Mail information for the corresponding user is retrieved and written into the engaged PCMCIA card.

[0059] When a plurality of pieces of mail are present, all of them are downloaded and written into the PCMCIA card.

[0060] Thus, when the mail information writing steps to the PCMCIA card are completed, the process proceeds to step S7.6. A message is displayed on the display screen of the operation panel that states writing is completed and that the user should remove the card. In step S7.8, the process waits until the PCMCIA card is removed. When there is no mail, a message which states that there is no mail is displayed. As a result, wasteful work to attempt to read mail contents on a separate machine (an

information processing apparatus having a PCMCIA card interface) even though there are no mail contents in the PCMCIA card would be spared.

[0061] In a case where the search does not find matching user information to the identification number in the engaged PCMCIA card, the card does not possess a usage authorization of the present apparatus. Then, the process proceeds to step S7.7. Here, an error message is displayed and states that the card does not have an authorization. Then, the process waits for the removal of the PCMCIA card in step S7.8.

[0062] As explained above, according to the present third example, a mere procedure of engaging a writable storage media such as a PCMCIA card in the present apparatus enables the user of the card to be identified and corresponding mail to be written into the PCMCIA card. Therefore, a user then can engage the card to an apparatus (the apparatus does not have to be connected to the network) having an interface for inserting a PCMCIA card and read the mail contents.

[0063] Furthermore, the present third example may be made to be compatible with the first example. In such a case, information for both examples need to be registered in advance in the storage section. Then, when a PCMCIA card is engaged, at least mail downloading and writing may be arranged for automatic performance. (However, it is necessary to make notification as to whether or not there is mail.)

[0064] Moreover, the example is explained using a PCMCIA card. Any storage media would do, however, as long as it stores user's identification information (recognition information) (or can store the information), and at the same time, it has the regions which has the writing and storing capacities.

[0065] <The Fourth Example> In the above third example, a PCMCIA card is utilized. A card is engaged in an apparatus having a PCMCIA card interface and mail contents are read. However, a display section such as an LCD display may be provided on a PCMCIA card or a similar memory card, thereby enabling mail contents to be

directly confirmed. Of course, in such a case, a CPU and memory holding programs related to a display are provided in a card.

[0066] For example, a pager having the above functions (a connection interface and so forth) may be used.

[0067] Moreover, in some cases, the display section of the present apparatus may be arranged to show mail contents.

[0068] <The fifth Example> Next, the fifth example is explained. Below, an apparatus to which a facsimile device is connected is explained.

[0069] In general, a facsimile device prints out images when they are received. In this point, a confidential facsimile can not be printed unless its password is entered. Therefore, it is excellent in keeping secrecy when one does not wish others to view his or her fax.

[0070] However, if its password is forgotten, then its contents can not be viewed any longer.

[0071] Thus, the present fifth example resolves the security issue while enabling a facsimile device to be connected to a network.

[0072] Figure 8 shows the block diagram of the apparatus of the present fifth example and Figure 9 shows the connection arrangement of a network and a facsimile device.

[0073] The difference between Figures 8 and 1 lies in that Figure 8 has a peripheral device connection section 1.4'. (Figure 1 has an input peripheral device connection section.) In other aspects, the component elements are the same and therefore, their explanation is omitted.

[0074] However, storage section 1.5 must have a relatively large capacity because it stores received facsimile images. Therefore, the storage section consists of a hard disk device which is advantageous in the cost-performance ratio. Of course, instead, it could be a magneto-optical disk device or other storage media.

[0075] Figure 10 shows data contents of storage section 1.5 in the present fifth example. As illustrated in the figure, user information for each user consists of a set of a password 10.1 for confidential facsimile and file management information 10.2 in which a directory name specified for each user is stored. The same number of sets of the information are stored as that of registered users.

[0076] The operation of the example having the above design is explained below. When a facsimile device receives a confidential image, it transmits the received image with a password for the received confidential facsimile to the present apparatus (an electronic lock apparatus) through peripheral device connection section 1.4'. Upon receiving, the present apparatus stores the information in storage section 1.5 in a form of a file. At this time, it searches for user information corresponding to the password for the confidential facsimile. Here, it assigns an appropriate file name (e.g., a file name using the date and time) to the file and stores the received image in a directory according to the directory name held in file management information 10.2 in the corresponding user information which is obtained by the search.

[0077] Thus, all confidential facsimiles are stored in storage section 1.5. Then, when a rightful user engages to the present apparatus his or her PCMCIA card in which his or her password is stored, the apparatus searches matching user information to the password. Then, it examines the file management information within the user information obtained by the search. When it finds undelivered files in the corresponding directory, it sends them to the facsimile device for printing.

[0078] As a result of the above, a user merely has to engage his or her PCMCIA card to the present apparatus in order to print out received images addressed to him or her at any desired time. At the same time, a user does not even have to notice that a password is necessary while the security issue is addressed.

[0079] Below, the operation of the present apparatus is explained according to the flow chart in Figure 11.

[0080] First, in step S11.1, peripheral device connection section 1.4 determines whether or not the facsimile device which is connected to the present apparatus is currently receiving a facsimile. If it is receiving a facsimile, the process proceeds to step S11.2. Otherwise, it proceeds to step S11.6.

[0081] In step S11.2, the received information enters peripheral device connection section 1.4', which determines whether or not there is a password for confidential facsimile within the information. If there is no password, the process proceeds to step S11.5 and the received facsimile image is sent to the facsimile device for printing.

[0082] Moreover, when a password associated with confidential communications is detected, the process proceeds to step S11.3. There, a search is performed in order to examine whether user information having the corresponding password exists in storage section 1.5. If there is no such user information, the process executes step S11.5.

[0083] When user information matching the confidential communication password is detected, the facsimile image information is stored in a directory according to the directory name which is stored within file management information 10.2 in the user information.

[0084] As described above, when a password associated with a confidential image matches that of a user who is registered in the electronic lock apparatus of the example, such an image is accumulated in storage section 1.5.

[0085] On the other hand, if the facsimile device is not currently receiving a facsimile, the process proceeds to step S11.6 and determines whether a PCMCIA card is engaged in the present apparatus.

[0086] If it is found that a PCMCIA card is engaged, the process proceeds to step S11.7 and a user password stored in the PCMCIA card is retrieved. Then, in the next step S11.8, a search is performed for user information matching the retrieved password.

[0087] Step S11.9 examines the search result. In other words, if user information having a matching password is found, the process proceeds to step S11.10. A directory name stored in corresponding file management information 10.2 is retrieved and all files stored in that directory are output one by one to the facsimile device for printing.

[0088] When the series of printing procedures are completed, the process proceeds to step S11.11 and displays a message stating that all information for printing is sent out. Then, in step S11.13, the process waits until the PCMCIA card is removed. Further at this time, printed files are deleted from the storage section.

[0089] Moreover, when the search result in the user information within storage section 1.5 determines that there is no match, it is understood that the user of the PCMCIA card is not registered and does not have usage authorization. Hence, in step S11.12, an error message is displayed to indicate that he or she is not allowed to use the apparatus. Then, the process proceeds to step S11.13.

[0090] As a result of the above, a user can print confidential facsimiles addressed to him or her by merely engaging the PCMCIA card that he or she uses in the present apparatus.

[0091] Next, an example in which a client prints a document on the facsimile device (or a printing device) which is connected to the electronic lock apparatus of the present fifth example is explained, according to the flow chart in Figure 12.

[0092] First, in step S12.1, it is determined whether or not a client on the network sent printing data to the present apparatus (electronic lock apparatus). When it is detected that printing data is received, the process proceeds to step S12.2 and identifies the user (identification number) who sent the printing data. In step S12.3, a search is performed for user information based on the result of identification and a storage target in storage section 1.5 is determined. Then, in step S12.4, the received printing data is stored in a form of a file in the thus-determined storage target.

[0093] Moreover, when step S12.1 determines that printing data is not received, the process proceeds to step S12.5 and it is determined whether or not a PCMCIA card is engaged.

[0094] When it is determined that a PCMCIA card is engaged, the steps of S12.6 and thereafter are performed. These steps are the same as those of S11.7 and thereafter, which are previously explained. A brief explanation is that engaging a PCMCIA card enables a user to be identified, thereby printing files in a corresponding directory.

[0095] As a result of the above, a printing procedure on a client connected to a network does not immediately output to a printing device, but rather stores the data in the preset apparatus. When a PCMCIA card in which information for identifying its user is engaged on the present apparatus, printing actually starts. Therefore, in cases such as where there is a distance between a client machine and a device having printing functions, a user does not need to rush to the printing device as soon as he or she sends a printing command.

[0096] Next, information exchange steps among the electronic lock apparatus, a client and a PCMCIA card for changing a password in the present fifth example are explained according to Figure 13.

[0097] Step 13.1: An application for changing a password is run on a client. As a result, the application sends the present apparatus the current password together with a certain command.

[0098] Step 13.2: When the electronic lock apparatus receives the information, it examines whether or not the password is stored in storage section 1.5 and determines whether or not the client attempting to change the password is a rightful registered user. Here, it notifies the user that a change is allowed if the password matches a registered password.

[0099] Step 13.3: Upon receiving the notice, the user enters a new password and sends the information to the electronic lock apparatus.

[0100] Step 13.4: The electronic lock apparatus updates the information which is used for verifying a new password and thus, updates the user information which is stored in the storage section. Thereafter, it notifies the client that the password change is complete.

[0101] Step 13.5: Upon receiving the notice, the client updates the password within the PCMCIA card which is engaged in the client.

[0102] A user can change his or her password at will using the above procedure.

[0103] Next, contents of operation and procedures at the electronic lock apparatus of the present example is explained for the above steps according to the flow chart in Figure 14.

[0104] First, in step S14.1, the electronic lock apparatus receives a password change command and a current password from a client. Thereafter, the process proceeds to step S14.2, where it searches for user information matching the password and determines whether or not such password exists.

[0105] If it determines that the password does not exist, the process proceeds to step S14.7 and notifies the client that he or she can not change the password.

[0106] On the other hand, if it determines that a matching password exists, the process proceeds to step S14.3 and notifies the client that he or she is authorized to change the password.

[0107] Then, the process proceeds to step S14.4. The electronic lock apparatus receives a new password from the client and updates the corresponding user information with it. Once the changing procedure is complete, the electronic lock apparatus notifies the client that the procedure is complete. Thus, the present procedure is complete.

[0108] As explained above, according to the present fifth example, images which are received from a facsimile device or client can be printed when a user who is supposed to receive the print out desires to.

[0109] Further, when a password in a PCMCIA card is changed in the above procedure, the card is engaged on a client. However, a card may be engaged on the present electronic lock apparatus so that a password in a PCMCIA card is changed on the electronic lock apparatus.

[0110] <The Sixth Example> In the above fifth example, a facsimile device is used as an example of a connected device. However, such a device may be a printing device. In this case, the device functions as a network printer.

[0111] Moreover, in the above example, images which are received on a facsimile device are printed on the facsimile device. However, they may be printed on another printer on the network. In this case, the functions in the first example can be expanded so that images are printed on a printer which is defined for each user.

[0112] Further, when a printer is connected to the present apparatus as a peripheral device instead of a facsimile device, then a sure printing can be performed as previously explained (cf. Figure 4). Moreover, in this case, the connection section may be a parallel port instead of an OA interface. Moreover, when received images are printed, a user engages his or her PCMCIA card which is used as an electronic key. At this time, information which is useful to the user may be written into the card (e.g., a list of received faxes). Because the PCMCIA standard is widely used, a user can read the information at a client at a desired time.

[0113] Various examples are explained above. The explanations were performed with an assumption that the present apparatuses (to which peripheral devices are connected) in the examples stores information for determining who are rightful users. For giving a new authorization, one can arrange so that only a particular user of the network (such as a manager) can update the contents in the storage section of the present apparatuses.

[0114] Further, the present inventions may be applied to a system containing a plurality of devices (such as host computers, interface devices, readers, printers and so forth), or to a machine containing one device (such as a copy machine or facsimile).

[0115] Further, it is needless to say that the purpose of the present inventions can be achieved by the following. A system or device is provided with a storage media in which program codes of software which realizes the functions of the examples explained above are stored. A computer (or CPU or MPU) in the system or device retrieves executes the program codes stored in the storage media.

[0116] In this case, program codes which are retrieved from a storage media realizes the novel functions of the present inventions. The storage media which stores the program codes constitutes the present inventions.

[0117] For example, a floppy disk, hard disk, optical disk, magneto-optical disk, CD-ROM, CD-R, magnetic tape, non-volatile memory card, ROM and so forth may be used as a storage media to supply such program codes.

[0118] Moreover, it is needless to say that the functions of the examples previously explained are achieved not only by executing the program codes which a computer retrieves, but also by a program such as an OS which runs on the computer performing part of or all of the actual procedures based on the direction of the program codes.

[0119] Furthermore, it is needless to say the functions of the examples previously explained are achieved by a CPU and so forth which is provided on a functional expansion card inserted into a computer or a functional expansion unit attached to the computer performing part of or all of the actual procedures based on the direction of the program codes after the program codes are retrieved from the storage media and are stored in a memory associated with the functional expansion card or unit.

[0120]

[Advantages of Inventions] As explained above, the present inventions enable information from an input peripheral device to be transferred to a different storage target for each user.

[0121] Moreover, the present inventions enable a simple procedure to download electronic mail.

[0122] Moreover, the present inventions enable a printing process to print printing information when a user desires, rather than when the printing process receives the printing information.

[0123]

[Brief Explanation of Figures]

[Figure 1] The figure is a block diagram of an example apparatus.

[Figure 2] The figure shows the contents in the storage section of the first example and their usage.

[Figure 3] The figure is a flow chart illustrating the operation and process contents in the first example.

[Figure 4] The figure is a flow chart illustrating the option setting program on a client in the first example.

[Figure 5] The figure shows the appearance and an operation panel of examples.

[Figure 6] The figure shows the contents in the storage section of the third example and their usage.

[Figure 7] The figure is a flow chart illustrating the operation and process contents in the third example.

[Figure 8] The figure is a block diagram of the apparatus of the fifth example.

[Figure 9] The figure shows a system design of the fifth example.

[Figure 10] The figure shows the contents in the storage section of the fifth example.

[Figure 11] The figure is a flow chart illustrating the operation and process contents for received facsimile images in the fifth example.

[Figure 12] The figure is a flow chart illustrating the operation and process contents for the printing procedure in the fifth example.

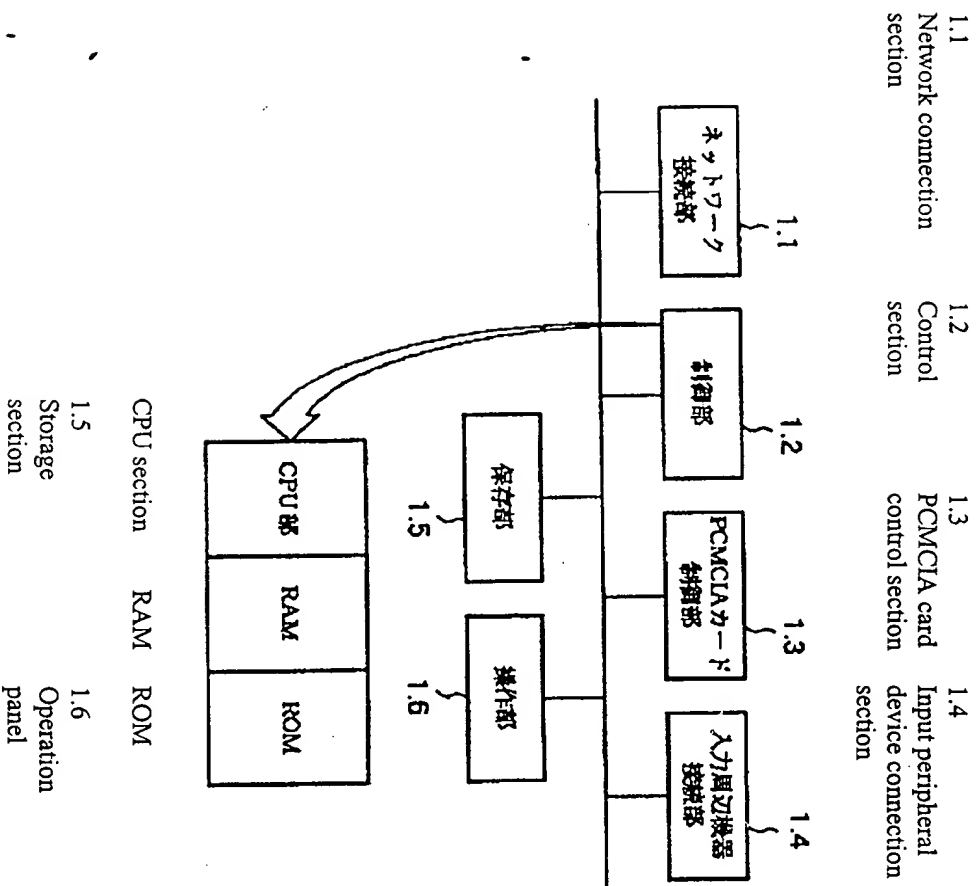
[Figure 13] The figure shows the sequence related the password changing procedure in the fifth example.

[Figure 14] The figure is a flow chart illustrating the operation and process contents for the sequence in Figure 13.

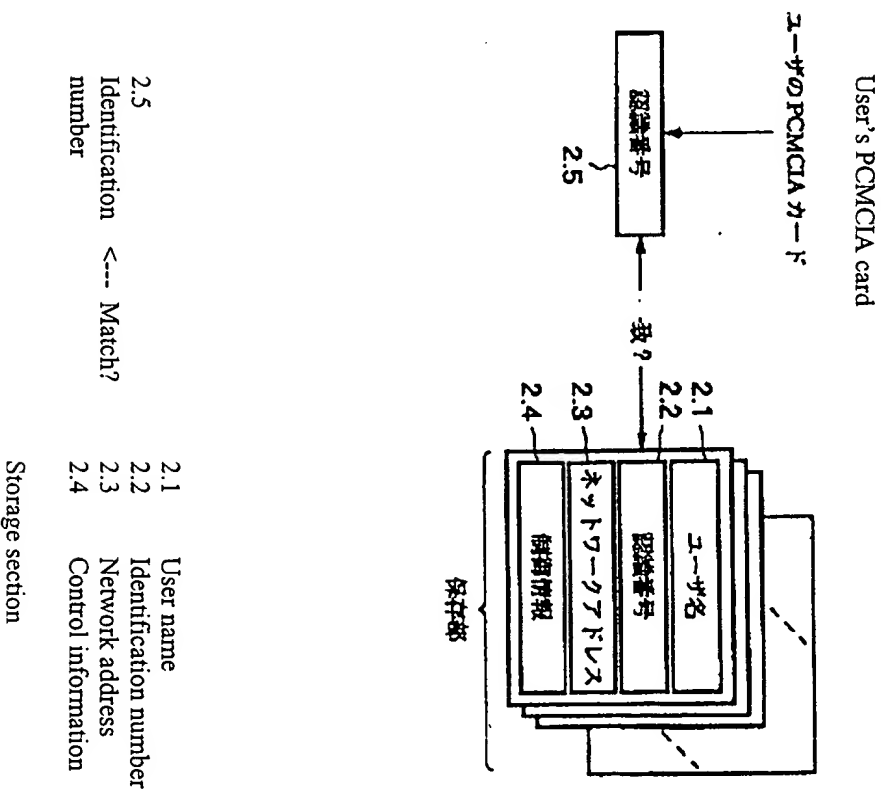
[Explanation of Labels]

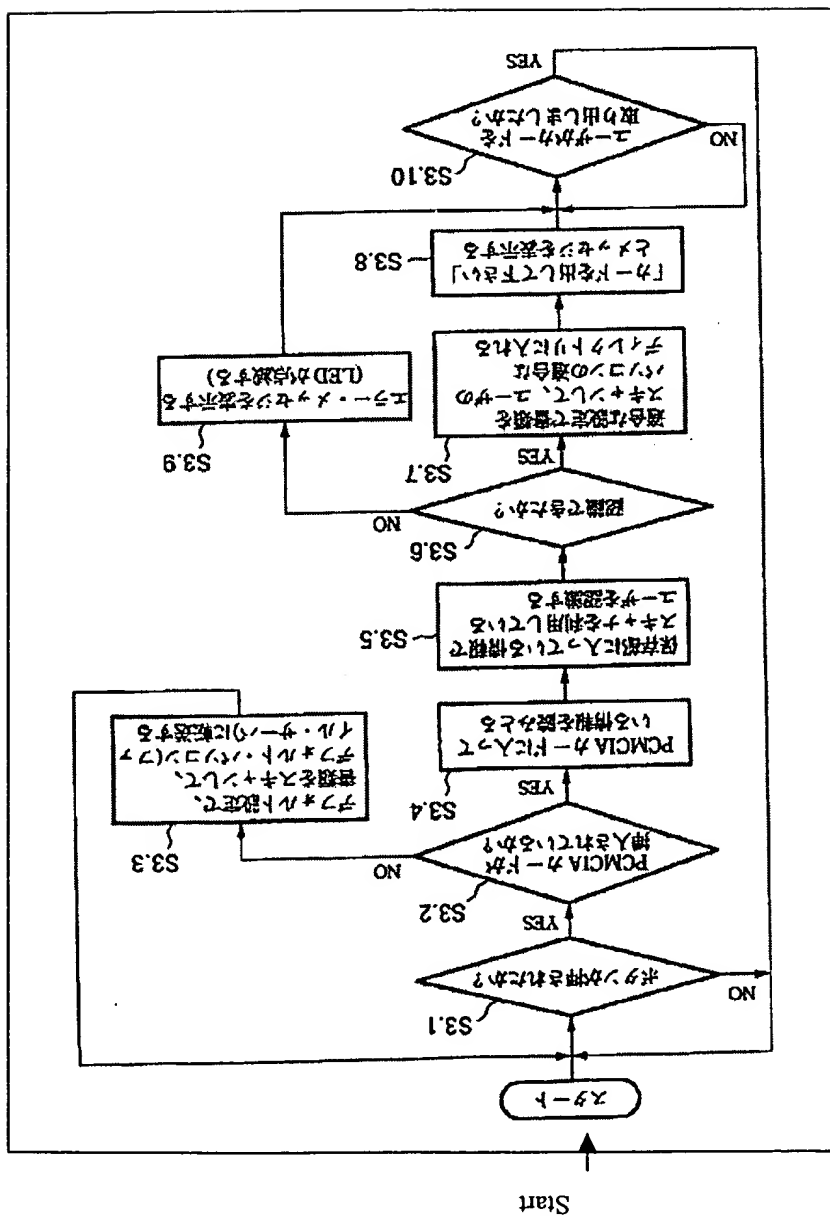
- 1.1 Network connection section
- 1.2 Control section
- 1.3 PCMCIA card control section
- 1.4 Input peripheral device connection section
- 1.4' Peripheral device connection section
- 1.5 Storage section
- 1.6 Operation panel

[Figure 1]



[Figure 2]



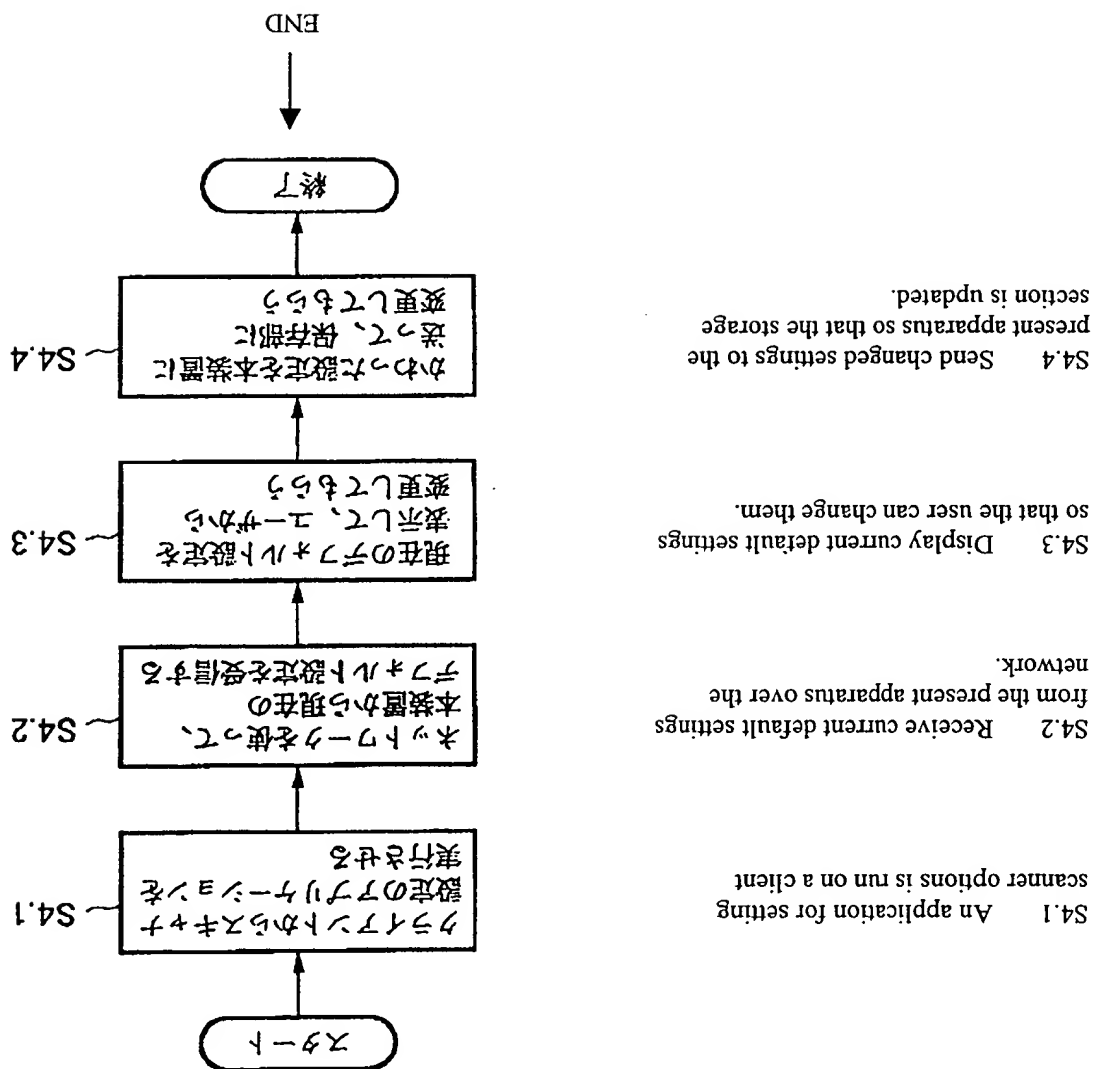


[Figure 3]

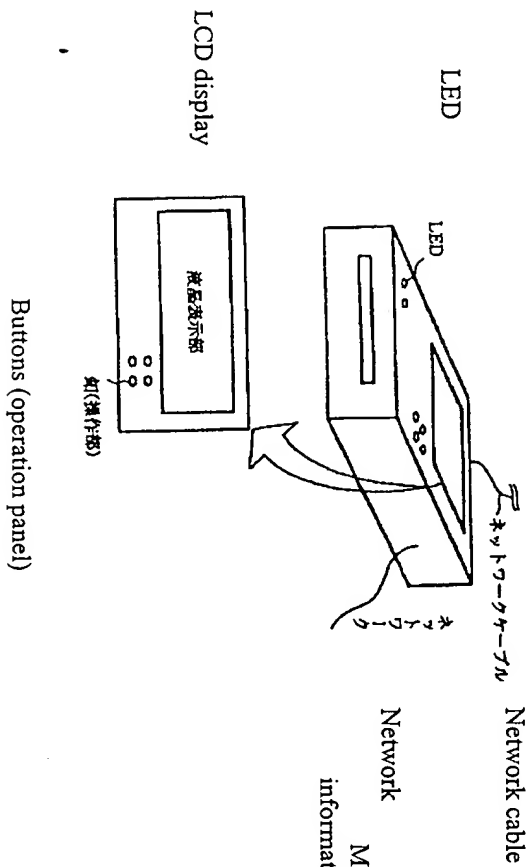
- S3.1 Is the button pressed?
- S3.2 Is a PCMCIA card engaged?
- S3.3 Scan a document using default settings, and send to a default personal computer (file server).
- S3.4 Retrieve the information in the PCMCIA card.
- S3.5 Identify the user who is using the scanner based on the information in the storage section.
- S3.6 Identified?
- S3.7 Scan a document with appropriate settings and send to an appropriate directory in user's personal computer.
- S3.8 Display a message, "Please remove your card."
- S3.9 Display an error message. (Turn on an LED.)
- S3.10 Did the user remove the card?

[Figure 4]

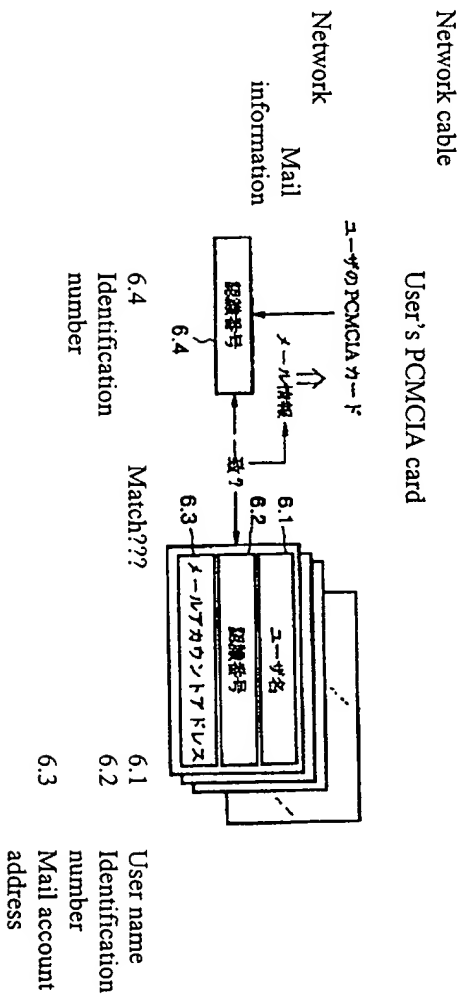
Start



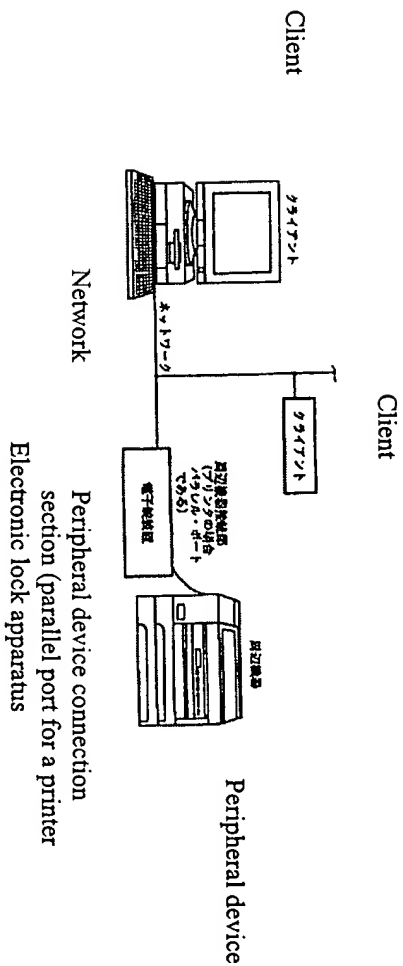
[Figure 5]



[Figure 6]



[Figure 9]



[Figure 7]

Start



S7.1 Is a PCMCIA card inserted?

S7.2 Retrieve the user number in the PCMCIA card

S7.3 Identify the user who requests to read electronic mail, using the information stored in the storage section.

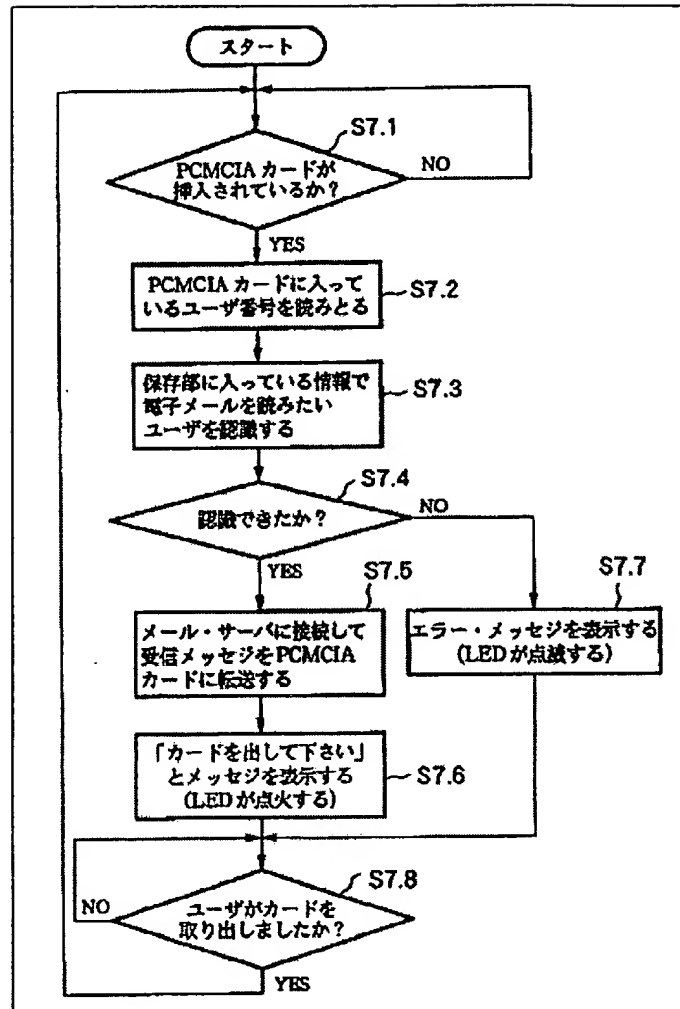
S7.4 Identified?

S7.5 Connect to the mail server and transfer received message to the PCMCIA card.

S7.6 Display a message, "Please remove your card." (Turn on an LED.)

S7.7 Display an error message. (Turn on an LED.)

S7.8 Did the user remove the card?



[Figure 8]

1.1 Network connection section

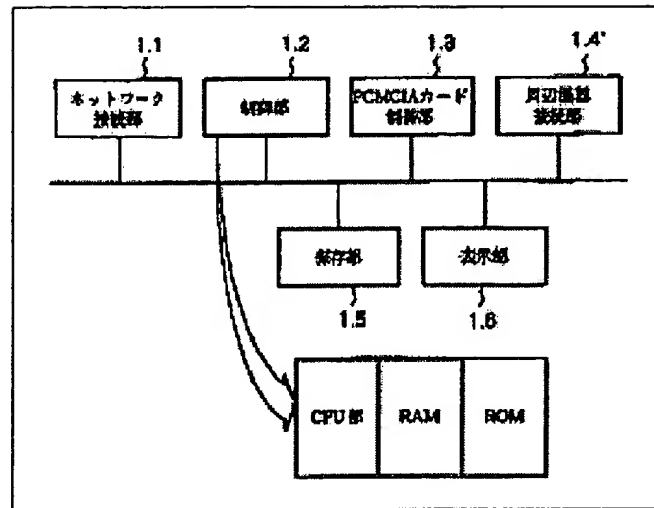
1.2 Control section

1.3 PCMCIA card control section

1.4' Peripheral device connection section

1.5 Storage section

1.6 Display section



CPU RAM ROM
section

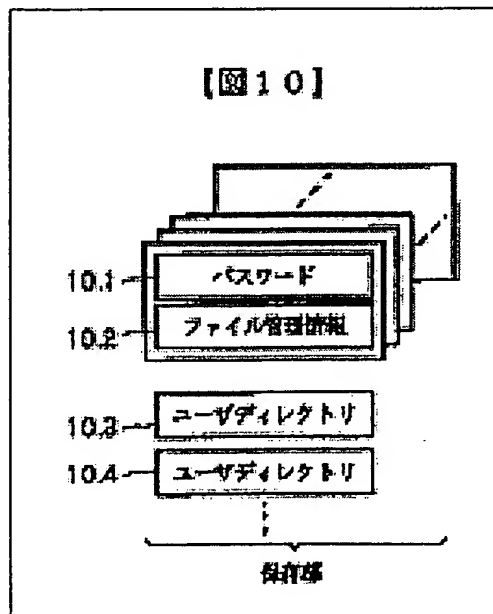
[Figure 10]

10.1 Password

10.2 File management information

10.3 User directory

10.4 User directory



Storage section

[Figure 11]
Start

S11.1 Receiving a fax?

S11.2 Is a password attached?

S11.3 Does the password match the user?

S11.4 Store the received fax in the directory for the user which is prepared in the storage section.

S11.5 Print the fax.

S11.6 Is an electronic key (PCMCIA card) inserted?

S11.7 Retrieve the password stored in the PCMCIA card.

S11.8 Search for a corresponding password in the information stored in the storage section, using an algorithm.

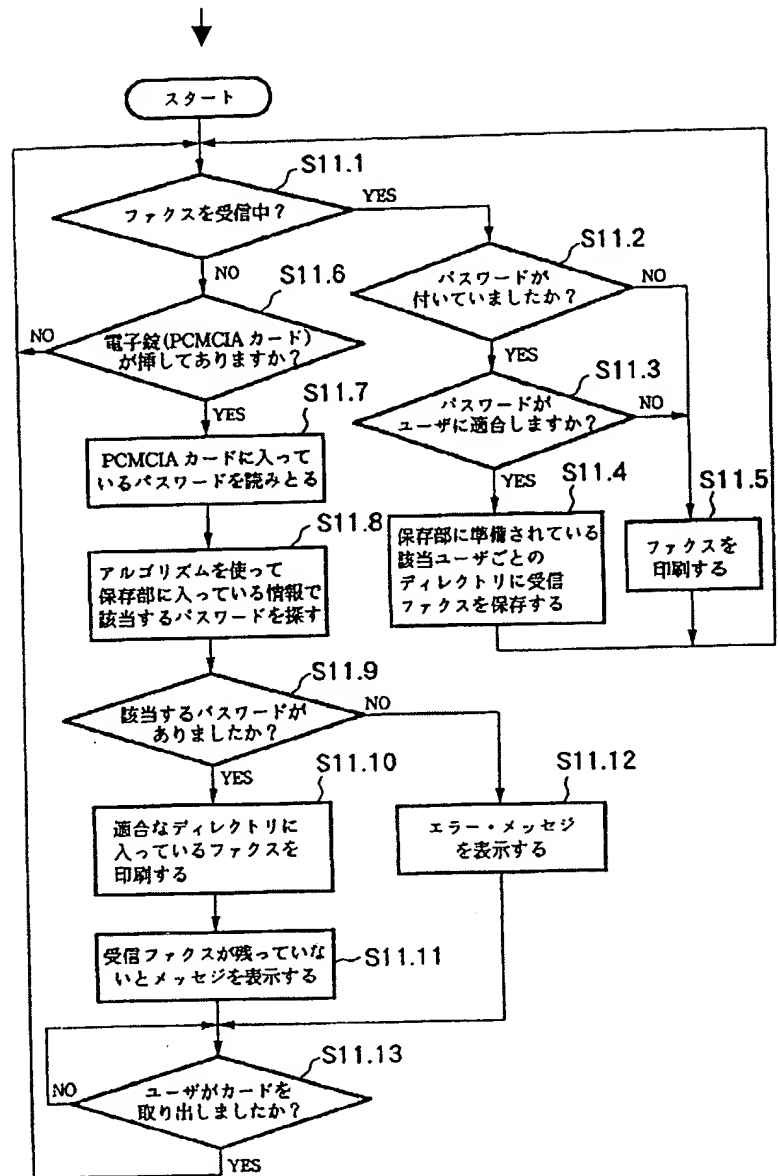
S11.9 Found a corresponding password?

S11.10 Print fax stored in an appropriate directory.

S11.11 Display message that there are no more received fax.

S11.12 Display an error message.

S11.13 Did the user remove the card?



[Figure 12]
Start

S12.1 Did printing data arrive?

S12.2 Identify the user who is printing.

S12.3 Determines the storage target.

S12.4 Store the printing information in the directory for the user which is prepared in the storage section.

S12.5 Is an electronic key (a PCMCIA card) inserted?

S12.6 Retrieve the password in the PCMCIA card.

S12.7 Search for a corresponding password in the information stored in the storage section, using an algorithm.

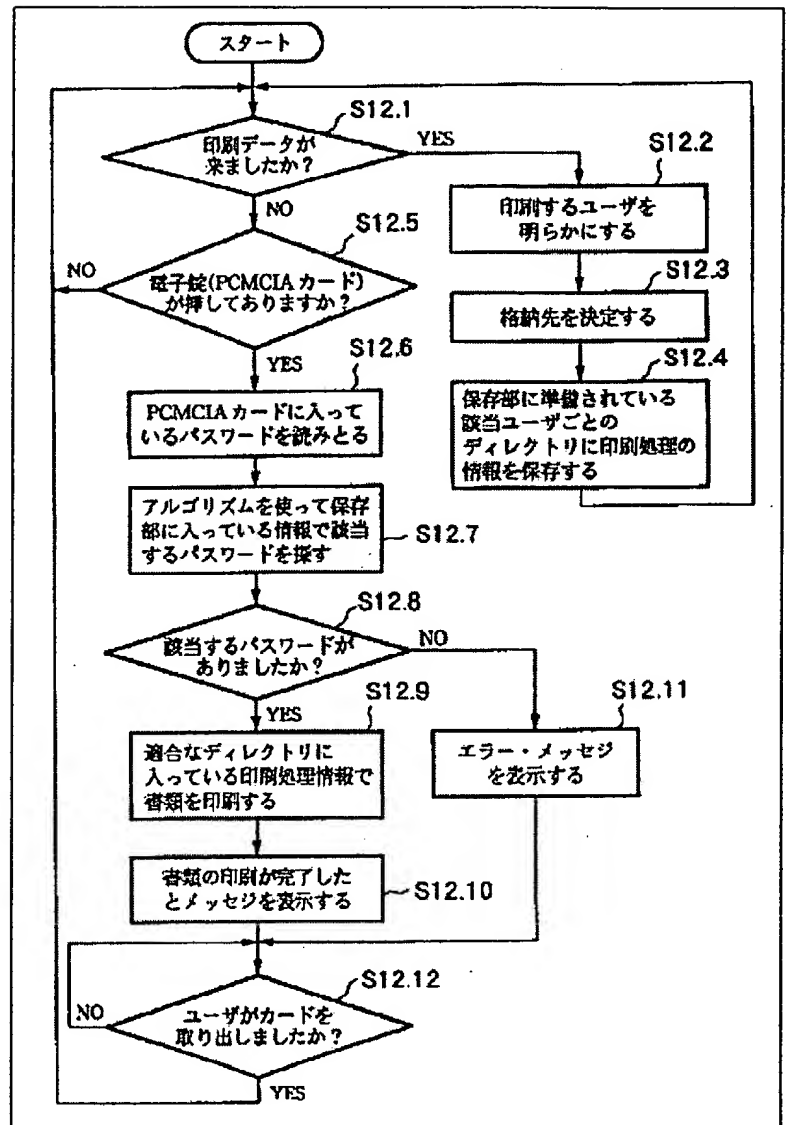
S12.8 Found a corresponding password?

S12.9 Print documents using the printing information stored in an appropriate directory.

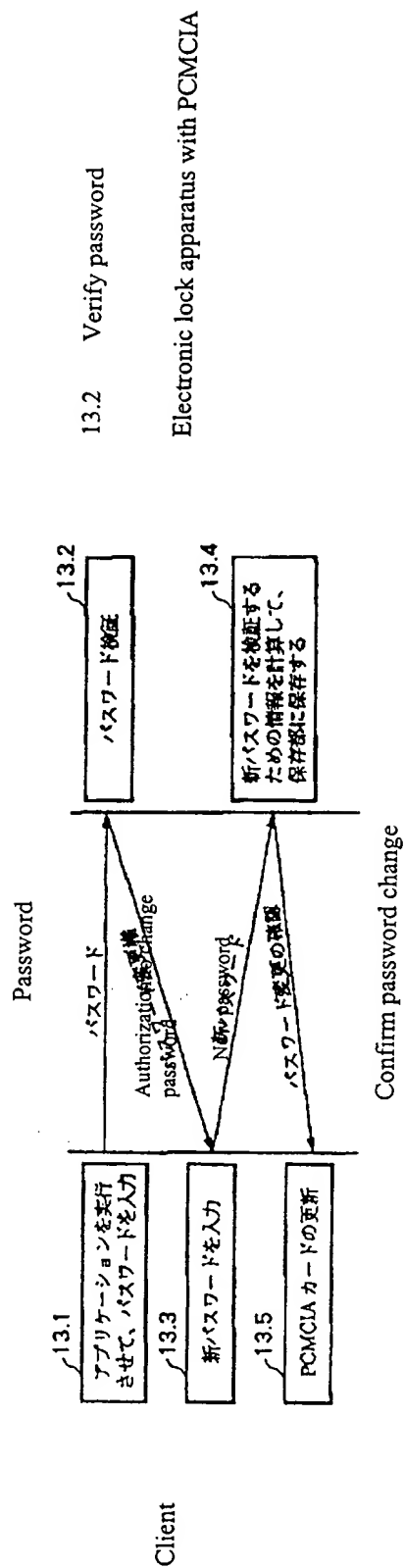
S12.10 Display message that the document printing is complete.

S12.11 Display an error message.

S12.12 Did the user remove the card?



[Figure 13]



13.1 An application is run and a password is entered.

13.3 A new password is entered.

13.5 The PCMCIA card is updated.

[Figure 14]

S14.1 Ask for password and send it to the electronic lock device.

S14.2 Is the password correct?

S14.3 Send an authorization to change the password.

S14.4 Receive a new password and update the user information.

S14.5 Notify the client that the password change is complete.

S14.7 Notify the client that it does not have an authorization to change the password.

